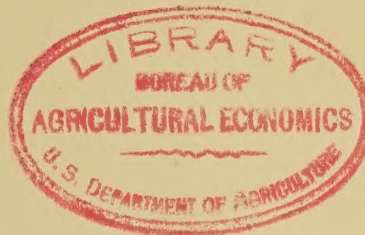


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JUL 30 1938

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION
DIVISION OF MARKETING AND MARKETING AGREEMENTS



PRELIMINARY ECONOMIC STATEMENT RELATING TO HOPS PRODUCED
IN OREGON, CALIFORNIA, AND WASHINGTON

Prepared to assist in the Consideration of
the Proposed Marketing Agreement and Order
for Hops produced in the Pacific Coast States
of Washington, Oregon, and California.

General Crops Section
Economic Analysis Unit

June, 1938

1894

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PRELIMINARY ECONOMIC STATEMENT RELATING TO HOPS PRODUCED
IN OREGON, CALIFORNIA, AND WASHINGTON

Table of Contents

	<u>Page No.</u>
Summary	i-ii
Area of Production	1
Production	1
Yield per Acre	1
Imports and Exports	3
Available Supplies	3
Stocks	5
Purchasing Power Parity	7
Interstate Shipments	7
Restriction of Salable Tonnage	9

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PRELIMINARY ECONOMIC STATEMENT RELATING TO HOPS PRODUCED

IN OREGON, CALIFORNIA, AND WASHINGTON

List of Tables

<u>Table No.</u>		<u>Page No.</u>
I	Harvested Acreage, Production, and Yield of Hops in Oregon, California, and Washington	2
II	United States Foreign Trade in Hops, 1920-21 to 1936-37	4
III	Supply and Disposition of Hops Produced in Oregon, California, and Washington, 1920-21 to 1937-38	6
IV	Farm Price and Purchasing Power Parity of Hops Grown in the United States	8

Statistical Appendix

V	Principal Hop Producing States in the United States, 1930-1937	
VI	Harvested Production, Farm Prices, Farm Value, Acreage, and Value Per Acre of Hops Grown in Oregon, California, and Washington, and Farm Value Adjusted for Changes in Prices Paid by Farmers, 1923 to 1937	
VII	Hop Production by Leading Producing Countries in the World	
VIII	Imports of Hops into the United States by Countries of Origin, 1910-1937.....	
IX	United States Exports of Hops by Principal Countries of Destination	
X	Consumption of Hops by Breweries	
XI	Estimated Cost of Production of Hops Grown in Sacramento and Sonoma Counties, California, with Varying Yields per Acre	
XII	Hops and Hop Extract Used in the Production of Fermented Malt Liquor, Year Ending June 30, 1937, by States Ranked in Order of Pounds Used	

PRELIMINARY ECONOMIC STATEMENT RELATING TO HOPS PRODUCED
IN OREGON, CALIFORNIA, AND WASHINGTON

Summary

1. Commercial hop production in the United States is confined to Oregon, California, and Washington. Since 1933, approximately 50 per cent of all reported production originated in Oregon, 26 per cent in California, and 24 per cent in Washington.
2. There are approximately 1,300 hop growers producing hops commercially in the Pacific Coast States.
3. Since 1932, production has averaged approximately 44,000,000 pounds annually.
4. Hop yields per acre in Oregon, California, and Washington, during 1928 to 1937, averaged 962 pounds, 1,616 pounds, and 1,757 pounds, respectively.
5. During the past five years, imports of hops have averaged approximately 7,500,000 pounds. Imports during the 1937-38 season will amount to approximately 9,000,000 pounds. Exports normally averaged approximately 6,000,000 pounds per year and will be approximately equal to that in 1937-38.
6. Total annual supplies available for the domestic market during 1933-34 to 1937-38 averaged approximately 51 million pounds. Consumption of hops by brewers during the past five years averaged 33.3 million pounds.
7. Farm prices in 1938-39 will need to average approximately 31 cents per pound to give hop growers a purchasing power equivalent to that prevailing during the pre-war base period 1910-1914. Farm prices in 1937-38 averaged 16.7 cents per pound or approximately 53 per cent of purchasing power parity.

8. With restricted export outlets and with domestic use closely related to the production of fermented malt liquor, the market demand for hops is inelastic. That is, sales are not proportionately increased by reductions in price. Restricting the sale of hops within reasonable limits will tend not only to increase unit prices to levels closer to purchasing power parity, but to result in a greater return to the industry as a whole than would otherwise prevail.

PRELIMINARY ECONOMIC STATEMENT RELATING TO HOPS PRODUCED

IN OREGON, CALIFORNIA, AND WASHINGTON

Area of Production

Commercial hop production in the United States is confined to Oregon, California, and Washington. According to industry information, small quantities are grown in certain other states but no official records are available of production in areas outside of the three Pacific Coast States. Since 1933, approximately 50 per cent of all reported United States production has originated in Oregon, 26 per cent in California, and 24 per cent in Washington. There are approximately 1,300 hop growers in these three states, with a total acreage in 1937 of 34,100 acres.

Production

In consequence of a rapid increase in acreage since 1932, United States hop production is now at a higher level than at any time since 1916. Due partly to reduced acreage and partly to very low yields, production in 1936 amounted to only slightly over 25 million pounds. Excluding this year production since 1932 has averaged approximately 44 million pounds, as compared with average annual production of 27.4 million pounds during the preceding ten years.

Yield per Acre

During the past ten years, 1928 to 1937, inclusive, hop yields in the three Pacific Coast States averaged 1,200 pounds per acre. Production per acre in Oregon, California, and Washington, during this period, averaged 962 pounds, 1,616 pounds, and 1,757 pounds, respectively. Data of harvested acreage, production, and yield in these states are shown in detail in table I.

Table I

Harvested Acreage, Production and Yield of Hops in Oregon, California and Washington

Year	United States			Oregon			California			Washington		
	Acreage	Pro- duction	Yield	Acreage	Pro- duction	Yield	Acreage	Pro- duction	Yield	Acreage	Pro- duction	Yield
	1	2	3	4	5	6	7	8	9	10	11	12
	acres	thousand pounds	pounds per acre	acres	thousand pounds	pounds per acre	acres	thousand pounds	pounds per acre	acres	thousand pounds	pounds per acre
1924	20,350	27,670	1,360	12,000	13,800	1,150	6,000	9,600	1,600	2,350	4,270	1,817
5	20,350	28,573	1,404	13,000	15,600	1,200	5,000	8,000	1,600	2,350	4,973	2,116
6	20,800	31,522	1,516	13,000	16,900	1,300	5,400	8,910	1,650	2,400	5,712	2,380
7	24,600	30,658	1,246	16,000	15,904	994	6,000	9,900	1,650	2,600	4,854	1,867
8	26,200	32,944	1,257	17,000	17,000	1,000	6,000	9,480	1,580	3,200	6,464	2,020
9	24,400	33,195	1,360	17,000	18,445	1,085	4,500	9,675	2,150	2,900	5,075	1,750
1930	19,500	23,447	1,202	14,000	14,350	1,025	3,300	5,445	1,650	2,200	3,652	1,660
1	21,400	26,410	1,234	15,500	16,988	1,096	3,700	5,550	1,500	2,200	3,872	1,760
2	22,000	24,058	1,094	15,500	13,020	840	4,000	6,600	1,650	2,500	4,438	1,775
3	30,300	39,965	1,319	19,000	21,565	1,135	6,400	10,560	1,650	4,900	7,840	1,600
4	36,800	43,952	1,194	23,000	20,700	900	7,500	11,250	1,500	6,300	12,002	1,905
5	38,900	47,746	1,227	26,000	25,792	992	6,900	11,040	1,600	6,000	10,914	1,819
6	30,900	25,156	814	21,000	11,130	450	5,400	6,750	1,250	4,500	7,276	1,520
7	34,100	44,399	1,302	22,300	24,530	1,100	6,800	11,084	1,630	5,000	8,785	1,757

Source of data: U. S. Dept. Agr., Bur. Agr. Econ., Division of Crop and Livestock Estimates.

Imports and Exports

Imports of hops during the past five years averaged approximately 7.5 million pounds, but were subject to considerable variation during this period, varying from slightly over 5 million pounds in 1934-35 to over 11 million pounds in 1936-37. Imports during the current season, 1937-38, are lower than those in the preceding year and, on the basis of data now available, will amount to approximately 9 million pounds.

Exports of hops from the United States averaged approximately 6 million pounds during 1933-34 to 1937-38. Consequent mainly upon the short crop in 1936, exports in 1936-37 were sharply reduced, amounting to less than 3 million pounds as compared with an average of nearly 7 million pounds during 1933-34 to 1935-36. On the basis of exports through March, 1938, exports may be expected to total approximately 6 million pounds in 1937-38. United States imports and exports of hops since August 31, 1920, are shown in table II.

Consequent upon the widespread production and market control programs and high tariff rates adopted by practically all European countries, the export outlet for United States hops has been limited during recent years. In the absence of adverse production conditions in foreign hop producing countries, it appears that total season exports of domestic hops during the immediate future will not exceed from 6 million to 7 million pounds. With domestic production at the current level--approximately 44 million pounds annually--the export market thus provides an outlet for about 15 per cent of the total new-crop supply.

Available Supplies

During the past five seasons 1933-34 to 1937-38, domestic hop production

averaged over 40 million pounds of which 38.1 million pounds were harvested. Average annual exports during this period, amounting to 5.9 million pounds, were more than offset by hop imports averaging 7.5 million pounds annually. Average 'current' supplies thus amounted to approximately 39.8 million pounds. During this period, however, growers' stocks were sharply increased. Including these carryover stocks, the total annual supply available for the domestic market during the past five years averaged over 51 million pounds annually.

Stocks

Practically the entire domestic market for hops is in the beer brewing industry. Consumption of hops by brewers, during the five-year period 1933-34 to 1937-38, averaged approximately 33.3 million pounds annually, a volume substantially below the current level of production and of available supplies. Continuance of the relatively high level of production resulted in the accumulation of burdensome stocks. Total stocks in growers' hands on September 1, which averaged approximately 2 million pounds during 1931-32 to 1933-34, increased to an average of nearly 16 million pounds during 1935-36 to 1936-37. Growers' stocks of old hops on September 1, 1937, amounted to 15.5 million pounds, of which 13.2 million pounds were of 1934 or earlier crops. Notwithstanding the reduction of growers' stocks by the diversion, in 1937, of 17 million pounds of old hops, total stocks in all positions in the United States as of March 1, 1938, amounted to 42.9 million pounds.^{/1} The supply and disposition of hops grown in Oregon, California, and Washington are given in detail in table III.

^{/1}. U. S. Dept. Agr., Bur. Agr. Econ., Federal-State Market News Service.
Special Hop Market Review, May 13, 1938.

Table III

Supply and Disposition of Hops Produced in Oregon, California, and Washington

1920-21 to 1937-38

Year /1	:Growers':			:Growers':			:Total Move-:			:Movement :			:Dom. Trade :			:Consump-		
	:Stocks	:Harvested	:Total	:Stocks	:Total	:Supply	: ment Out	:Exports	: from Grow-	: Imports	: Supply	: Excl:tion by	: Trade	: Carryin	: Trade	: Excl:tion by	: Trade	: Excl:tion by
	:Sept. 1	:Production	:Supply	:Sept. 1	:Production	:Supply	:Sept. 1	:Hands	:Sept. 1	:Hands	:Sept. 1	:Hands	:Sept. 1	:Hands	:Sept. 1	:Hands	:Sept. 1	:Hands
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	-- -- thousands of pounds -- --																	
1920-21	2,580	33,555	36,135	6,800	29,335	22,003	7,332	3,671	11,003	5,989								
1921-22	6,800	29,340	36,140	8,700	27,440	19,360	8,080	974	9,054	4,453								
1922-23	8,700	27,744	36,444	11,000	25,444	15,787	9,657	1,368	11,025	4,556								
1923-24	11,000	19,751	30,751	1,800	28,951	19,119	9,832	574	10,406	3,815								
1924-25	1,800	27,670	29,470	1,300	28,170	16,096	12,074	482	12,556	3,314/4								
1925-26	1,300	28,573	29,873	800	29,073	14,553	14,520	569	15,089	3,498/4								
1926-27	800	31,522	32,322	1,800	30,522	13,516	17,006	471	17,477	3,150/4								
1927-28	1,800	30,658	32,458	2,000	30,458	11,562	18,896	733	19,629	3,077/4								
1928-29	2,000	32,944	34,944	5,700	29,244	8,865	20,379	688	21,067	2,735								
1929-30	5,700	33,195	38,895	6,512	32,383	6,761	25,622	944	26,566	2,627								
1930-31	6,512	23,447	29,959	2,328	27,631	5,565	22,066	1,040	23,106	2,197								
1931-32	2,328	26,410	28,738	2,536	26,202	3,802	22,400	1,294	23,694	1,841								
1932-33	2,536	24,058	26,594	1,789	24,805	2,443	22,362	4,963	27,325	7,767								
1933-34	1,789	39,965	41,754	8,658	33,096	7,700	25,396	5,629	31,025	26,235								
1934-35	8,658	43,150	51,808	16,061	35,747	6,772	28,975	5,194	34,169	31,773								
1935-36	16,061	42,310	58,371	15,826	42,545	6,184	36,361	6,535	42,896	34,516								
1936-37	15,826	25,156	40,982	15,517	25,465	2,719	22,746	11,026	33,772	37,005								
1937-38	15,517/5	40,034	38,551/2	8,364/3	30,187	6,000/6	24,187	9,200/6	33,387									

/1. Sept.-Aug. year except Column 10 'Consumption by Breweries' which is July-June year.

/2. Excluding 17,000,000 pounds removed under diversion program.

/3. As of March 1, 1938.

/5. Excluding new crop stocks.

/4. Including quantities used in the manufacture of distilled spirits.

/6. Estimated on basis of movement through March.

Source of data: Cols. 1 and 4; 1920-21 to 1931-32, estimated from trade sources prepared by G. Burmeister.

Data for subsequent years from Federal-State Market News Service. Special Hop Reviews.

Col. 2; U. S. Dept. Agr., Bur. Agr. Econ., Division of Crop and Livestock Estimates.

Cols. 6 and 8; U. S. Dept. Commerce, Commerce and Navigation Reports and Monthly Summaries of For. Com.

Col. 10; 1920-21 to 1935-36, U. S. Dept. Agr., Agricultural Statistics 1937:231. 1936-37.

Cols. 3, 5, 7, and 9, by calculation.

Purchasing Power Parity

With the exception of one season, prices received by hop producers during the past decade have been considerably below the level necessary to afford to producers of hops the purchasing power per unit that they had during the period 1910-1914.

During the ten-year period 1928-29 to 1937-38, farm prices of hops averaged 17.7 cents per pound and represented, in terms of purchasing power, 54.7 per cent of parity. As a result of speculative activity before and for sometime following repeal of the prohibition law, farm prices were above parity in 1933-34, hop prices in this season averaging 30.4 cents per pound. During the following four years, farm prices averaged 17.6 cents per pound with an average purchasing power 46 per cent below parity. Farm prices in 1937-38--averaging 16.7 cents per pound--were approximately 47 per cent below parity. According to present estimates, farm prices in 1938-39 must average 31.1 cents per pound to give hop growers a purchasing power equivalent to that prevailing during 1910-1914. Farm prices for hops, with comparative parity prices during recent years, are shown in table IV.

Interstate Shipments

Normally, at least 90 per cent of all domestic hops move directly or indirectly in interstate and foreign commerce. According to the Bureau of Internal Revenue, 37,004,749 pounds of hops and hop extract were used in the manufacture of fermented malt liquor within the United States during the year ending June 30, 1937. Of this amount, 2,469,552 pounds or 6.67 per cent of the total were consumed within Oregon, California, and Washington, and 34,535,197 pounds or 93.33 per cent of the total were consumed outside of these states.

Table IV

Farm Price and Purchasing Power Parity of Hops
Grown in the United States

Crop Year	: : Farm Price :	: : Index of Prices Paid by Farmers : /1	: : Purchasing Power Parity	: : Actual Prices Above (+) or Below (-) Parity	: : Actual Price as a Percentage of Parity
	1 cents per lb.	2 per cent	3 cents per pound	4 -	5 per cent
Average 1910-1914	23.9	100.0	23.9	--	100.0
1928-29	19.3	167.0	39.9	- 20.6	48.4
1929-30	11.4	162.6	38.9	- 27.5	29.3
1930-31	14.8	146.2	34.9	- 20.1	42.4
1931-32	13.8	126.3	30.2	- 16.4	45.7
1932-33	17.5	115.3	27.6	- 10.1	63.4
1933-34	30.4	125.9	30.1	+ 0.3	101.0
1934-35	14.5	131.3	31.4	- 16.9	46.2
1935-36	9.8	127.1	30.4	- 20.6	32.2
1936-37	27.4	134.6	32.2	- 4.8	85.1
1937-38	16.7	131.2/2	31.4	- 14.7	53.2
1938-39		130.0/3	31.1		

/1. September-August, including interest and taxes payable on real estate.

/2. Eight months average to and including April.

/3. May, 1938.

Source of data: Col. 1; 1910-14, U. S. Dept. Agr., Yearbook of Agriculture, 1919:553, arithmetic average of prices quoted. 1927-28 to 1932-33, U. S. Dept. Agr., Yearbook of Agriculture, 1934:570. 1933-34 to 1934-35, U.S. Dept. Agr., Bur. Agr. Econ., Market News Service, Hay, Feed, and Seed Division. Hop Market Review, February 14, 1935.

Col. 2; U. S. Dept. Agr., Bur. Agr. Econ., Index numbers of prices paid by farmers, interest and taxes payable per acre of farm real estate, by months, March, 1923 to date.

Col. 3; Farm price 1910-14 multiplied by column 2.

Col. 4; Column 3 minus column 1.

Col. 5; Column 1 divided by column 3.

Restriction of Salable Tonnage

The demand for hops is closely related to the manufacture of fermented liquor. Except for a small volume of hops used for pharmaceutical purposes, brewing--for which hops are an essential item--constitutes practically the only remunerative commercial outlet for hops. The cost of hops for brewing represents, however, a very small part of the total cost of producing beer. On the basis of 1934 brewing costs,^{/1} hops costing 20 cents per pound to brewers constituted slightly over 1 per cent of the final cost of beer. An increase in the cost of such hops to 50 cents per pound increases the cost to brewers of this item to only about 2 per cent of the total cost.

Exports, which under the proposed marketing agreement constitute a part of the growers' salable tonnage, exert an important influence on prices received by growers by reason of their effect on the volume available for the domestic market. Restriction of sales in foreign markets results, other things being equal, in an increase in the tonnage which must be disposed of through domestic channels, and vice versa. The inflexibility of brewers' demand for hops results in a change in domestic hop prices more than proportionate to such changes in supply, and makes the price received by growers particularly sensitive to changes in the export market.

With exports curtailed and with domestic use closely related to the production of fermented malt liquor, the demand for hops is necessarily inelastic. For the reason that the use of hops is highly specialized, sales are not proportionately increased by reductions in price. Thus supplies in excess of brewing requirements can be sold only for inventory or speculative

^{/1}. Data of brewing costs collected by the Code Authority of the Brewing Industry of the United States.

purposes. By reason of the same situation, hop prices are subject to marked increase when supplies are less than customary requirements for brewing and are susceptible to increases more than proportional to the decrease in supply.

STATISTICAL APPENDIX

Table V

Principal Hop Producing States in the United States

1930 - 1937

Crop Year	:Tot. U.S.:	Oregon	:	California	:	Washington	
	:Produc-	:Produc-	:Per Cent:	:Produc-	: Per Cent:	:Produc-	: Per Cent
	: tion	: tion	:of Total:	: tion	: of Total:	: tion	:of Total
	1	2	3	4	5	6	7
	1,000 pounds	1,000 pounds	per cent	1,000 pounds	per cent	1,000 pounds	per cent
1930	23,447	14,350	61.2	5,445	23.2	3,652	16.6
1931	26,410	16,988	64.3	5,550	21.0	3,872	14.7
1932	24,058	13,020	54.1	6,600	27.4	4,438	18.5
1933	39,965	21,565	54.0	10,560	26.4	7,840	19.6
1934	43,952	20,700	47.1	11,250	25.6	12,002	27.3
1935	47,746	25,792	54.0	11,040	23.1	10,914	22.9
1936	25,156	11,130	44.2	6,750	26.8	7,276	28.9
1937	44,399	24,530	55.2	11,084	25.0	8,785	19.8

Source of data: 1930 to 1934, University of California Agricultural Extension Service, "Statistics presented in connection with a proposed marketing agreement for hops produced in California, Oregon, and Washington", W. C. Ockey, D. W. Smythe, and F. R. Wilcox, January 1935.
 1935 to 1937, U. S. Dept. Agr., Agricultural Statistics
 1936: 194, and 1937: 232.

6/6/38

Table VI

Harvested Production, Farm Prices, Farm Value, Acreage and Value Per Acre of Hops
Grown in Oregon, California, and Washington, and Farm Value Adjusted
for Changes in Prices Paid by Farmers, 1923 to 1937 Inclusive

Year/ <u>1</u>	Harvested Production	Farm Price	Farm Value	Acreage	Value		Index of Prices Paid by Farmers/ <u>2</u>	Adjusted Farm Value
					Per Acre	Per Acre		
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	
	1,000 pounds	cents per pound	1,000 dollars	acres	dollars per acre	per cent		1,000 dollars
1923	19,751	18.8	3,713	18,440	201	163.8		2,267
1924	27,670	10.3	2,850	20,350	140	168.8		1,688
1925	28,573	21.8	6,229	20,350	306	168.5		3,697
1926	29,572	23.1	6,831	20,800	328	166.6		4,100
1927	29,930	22.9	6,854	25,342	270	166.9		4,107
1928	31,553	19.3	6,090	26,200	232	167.0		3,647
1929	33,195	11.4	3,784	24,400	155	162.6		2,327
1930	23,447	14.8	3,470	19,500	178	146.2		2,373
1931	26,410	13.8	3,645	21,400	170	126.3		2,886
1932	24,058	17.5	4,210	22,000	191	115.3		3,651
1933	39,965	30.4	12,149	30,300	401	125.9		9,650
1934	43,150	14.5	6,257	36,800	170	131.3		4,765
1935	42,310	9.8	4,146	38,900	107	127.1		3,262
1936	25,156	27.4	6,893	30,900	223	134.6		5,121
1937	40,034	16.7	6,686	34,100	196	131.2/3		5,096

/1. Season beginning September 1.

/2. 1910-14 = 100, September-August average; including interest and taxes payable on farm real estate.

/3. Eight months to and including April 1938.

Source of data: Cols. 1, 2, & 4; U. S. Dept. Agr., Bur. Agr. Econ., Div. of Crop and Livestock Estimates.
Col. 3; Col. 1 multiplied by col. 2.

Col. 5; Col. 3 divided by col. 4.

Col. 6; U. S. Dept. Agr., Bur. Agr. Econ., "Index Numbers of Prices Paid by Farmers, Interest
and Taxes Payable Per Acre of Farm Real Estate, by Months, March 1923 to Date",
Mimeo. April 1938.

Col. 7; Col. 3 divided by col. 6.

Table VII

Hop Production by Leading Producing Countries in the World

Year	United States	Great Britain	Czecho-slovakia	Germany	France	Yugo-slavia	Poland	Belgium	Canada
	1	2	3	4	5	6	7	8	9
	-- -- thousands of pounds -- --								
Aver. 1880-1884	31,660	44,680	--	51,400	8,100	--	--	12,580	1,140
" 1885-1889	34,594	56,491	--	64,340	8,640	--	--	12,700	940
" 1890-1894	44,307	48,952	--	50,679	7,403	--	--	8,300	1,140
" 1895-1899	44,391	54,563	--	54,662	7,580	--	--	8,680	1,080
" 1900-1904	46,844	45,063	--	44,301	7,072	--	--	7,442	1,561
" 1905-1909	51,904	44,822	--	47,112	9,058	--	--	7,633	1,360
" 1910-1914	52,198	39,574	--	37,679	7,349	--	--	7,795/1	869
" 1915-1919	36,502	24,707	--	16,760	3,280	--	--	4,155	651/1
" 1920-1924	27,757	33,130	12,368	15,101	8,423	3,241	2,491	5,118	844
" 1925-1929	31,383	35,351	22,337	20,697	11,127	9,987	5,401		1,130
1930	23,447	28,336	32,464	24,366	6,088	3,873	3,307	2,961	1,166
1931	26,410	18,928	27,177	17,152	1,177	3,636	3,967	1,149	1,230
1932	24,058	21,056	16,583	10,928	1,711	3,085	3,436	1,531	791
1933	39,965	24,192	13,708	14,977	3,178	3,228	2,541	1,580	1,477
1934	43,952	29,008	15,595	14,427	6,030	3,159	3,172	2,824	1,406
1935	47,746	27,776	15,432	18,942	5,098	4,170	3,732	2,535	1,766
1936	25,156	28,224	27,558	22,270	3,644	4,327	4,277	3,172	1,2
1937	44,399	26,320	20,580	19,511	5,202	4,938	3,329	2,663	1,2

/1. Four-year average.

/2. Data incomplete or not available.

Source of data: 1880 to 1929 - Ore. Agr. Ext. Serv., Bul. 288.
1930 to 1937 - U. S. Dept. Agr., Bur. Agr. Econ.

Table VIII

Imports of Hops into the United States

by Countries of Origin, 1910-1937

Years ending June 30, 1910-1917: Calendar Years 1918-1937

Year	Czecho- slovakia/ <u>1</u>	Germany	Other European Countries	All Other Countries	Total Imports
	1	2	3	4	5
	pounds	pounds	pounds	pounds	pounds
1910	--	2,059,484	1,141,027	49	3,200,560
1911	--	5,249,130	3,300,764	7,637	8,557,531
1912	--	1,770,620	1,219,205	1,300	2,991,125
1913	--	5,044,424	3,449,707	13	8,494,144
1914	--	2,868,370	2,500,723	12,932	5,382,025
1915	--	5,370,338	6,277,123	3,821	11,651,332
1916	--	358,564	317,140	--	675,704
1917	--	14,000	221,064	1,785	236,849
1918	--	--	121,211	77	121,288
1919	--	153,379	314,054	--	467,433
1920	1,705,353	1,374,647	2,792,430	77,069	5,949,499
1921	367,820	812,196	420,367	28,546	1,628,929
1922	723,572	456,950	19,041	1,380	1,200,943
1923	632,555	327,993	13,790	43,527	1,017,865
1924	327,719	50,125	26,685	1,721	406,250
1925	404,643	99,341	73,773	14,701	592,458
1926	313,051	211,268	42,874	551	567,744
1927	324,629	213,894	15,590	--	554,113
1928	317,810	186,223	75,480	1,472	580,985
1929	376,870	367,571	7,636	12,553	764,630
1930	451,218	622,547	15,380	9,498	1,098,643
1931	291,854	772,107	12,478	900	1,077,359
1932	322,694	922,693	15,853	557	1,299,779
1933	1,834,205	3,613,639	132,455	357,207	5,937,506
1934	2,199,235	3,269,717	647,739	4,209	6,120,900
1935	2,529,993	1,872,068	848,927	21,806	5,272,794
1936	4,026,875	2,344,297	2,484,387	58,219	8,913,778
1937	5,369,679	1,731,519	2,818,591	100,979	10,020,768

/1. Included in "Other European Countries" prior to 1920.

Source of data: Foreign Commerce and Navigation of the U. S. Data for years 1910 to 1929 are compiled and published in "An Economic Study of the Hop Industry of Oregon". Data for 1933-34 crop year, from Market News Service. 1933-37, U. S. Dept. Agr., Bur. Agr. Econ., Foreign Agricultural Service.

Table IX

United States Exports of Hops by Principal Countries of Destination

Year Beginning Sept. 1	Total Exports	Exports to United Kingdom		Exports to Irish Free State		Exports to Canada		Exports to All Other Countries	
		Amount	Per cent of Total	Amount	Per cent of Total	Amount	Per cent of Total	Amount	Per cent of Total
	1	2	3	4	5	6	7	8	9
	thousand pounds	thousand pounds	per cent	thousand pounds	per cent	thousand pounds	per cent	thousand pounds	per cent
1928-29	8,853	4,217	47.6	974	11.0	2,814	31.8	848	9.6
1929-30	6,724	3,193	47.5	613	9.1	2,531	37.6	387	5.8
1930-31	5,552	2,755	49.6	895	16.1	1,640	29.5	262	4.8
1931-32	3,801	2,328	61.3	769	20.2	585	15.4	119	3.1
1932-33	2,444	1,181	48.3	855	35.0	168	6.9	240	9.8
5-Yr. Annual Average	5,475	2,735	49.9	821	15.0	1,548	28.3	371	6.8
1933-34	7,700	4,531	58.8	1,596	20.7	791	10.3	782	10.2
1934-35	6,772	3,294	48.6	1,598	23.6	1,069	15.8	811	12.0
1935-36	6,184	3,868	62.5	949	15.4	699	11.3	668	10.8
1936-37	2,719	1,538	56.6	640	23.5	321	11.8	220	8.1

Source of data: U. S. Dept. Commerce, Monthly Summary of Foreign Commerce and Navigation.

Table X
Consumption of Hops by Breweries

Year Beginning July 1	Amount
	1
	1,000 pounds
1910-11	45,069
1911-12	42,437
1912-13	44,238
1913-14	43,988
1914-15	38,839
1915-16	37,452
1916-17	41,959
1917-18	33,481
1918-19	13,925
1919-20	6,441
1920-21	5,989
1921-22	4,453
1922-23	4,556
1923-24	3,815
1924-25	3,256/1
1925-26	3,426/1
1926-27	3,149/1
1927-28	3,071/1
1928-29	2,735
1929-30	2,627
1930-31	2,197
1931-32	1,841
1932-33	7,767
1933-34	26,235
1934-35	31,773
1935-36	34,516
1936-37	37,005

/1. Not including 57,936 pounds in 1924, 71,508 pounds in 1925, 960 pounds in 1926, and 6,294 pounds in 1927 used in the manufacture of distilled spirits.

Source of data: 1910-11 to 1935-36, U. S. Dept. Agr., Agricultural Statistics 1937:231.
1936-37, U. S. Treasury Dept., Alcohol Tax Unit, "Statistics on Fermented Malt Liquors and Cereal Beverages. Fiscal Year ended June 30, 1937".

Table XI

Estimated Cost of Production of Hops Grown in Sacramento
and Sonoma Counties, California,
with Varying Yields per Acre/¹

Item	: Sacramento County		: Yields of:		Sonoma County		: Yields of
	: 7 Bales	: 8 Bales	: 9 Bales	: 7 Bales	: 8 Bales	: 9 Bales	: 9 Bales
	: per Acre	: per Acre	: per Acre	: per Acre	: per Acre	: per Acre	: per Acre
	1	2	3	4	5	6	
	cents per pound	cents per pound	cents per pound	cents per pound	cents per pound	cents per pound	cents per pound
Labor costs	12.0	11.4	10.9	10.7	10.1	9.7	
Cost of materials	2.3	2.0	1.8	3.6	3.1	2.8	
Cash overhead	3.0	2.6	2.4	2.6	2.5	2.2	
Total Cash Costs	17.3	16.0	15.1	17.1	15.7	14.7	
Depreciation on vines & Equipment	1.6	1.4	1.2	1.9	1.7	1.5	
Total cash and depreciation	18.9	17.4	16.3	19.0	17.4	16.2	
Interest at 6 per cent on \$600 invest- ment on land, vines and equipment	2.6	2.3	2.0	3.4	3.0	2.7	
Total cost of Production	21.5	19.7	18.3	22.4	20.4	18.9	
Total cost with interest at 6 per cent on in- vestment of \$800	22.3	20.4	19.0	21.6	19.7	18.2	

¹1. Yields in bales of 200 pounds dry weight.

Source of data: Secured from representative growers and published in University of California, College of Agriculture, Agr. Ext. Serv. Statistics presented in connection with a proposed agreement for hops produced in California, Oregon, and Washington, Berkeley, California, January, 1935.

Table XII

Hops and Hop Extract used in the Production of Fermented
Malt Liquor, Year ending June 30, 1937, by States
Ranked in Order of Pounds Used

States	Pounds	Per cent of Grand Total
	1	2
<u>Within the producing area:</u>		
California	1,810,294	4.89
Washington	575,456	1.55
Oregon	83,802	.23
Total within producing area	2,469,552	6.67
<u>Outside the producing area:</u>		
New York	6,264,718	16.93
Pennsylvania	4,261,147	11.52
Wisconsin	3,407,251	9.21
Ohio	2,624,301	7.09
Illinois	2,315,744	6.26
New Jersey	2,310,368	6.24
Michigan	1,985,824	5.37
Missouri	1,936,504	5.23
Minnesota	1,462,317	3.95
Massachusetts	1,414,905	3.82
Indiana	1,284,407	3.47
Maryland	883,849	2.39
Kentucky	678,785	1.83
Rhode Island	633,770	1.71
Connecticut	517,345	1.40
Texas	488,485	1.32
Louisiana	473,090	1.28
Nebraska	276,134	.75
Florida	193,964	.52
Colorado	158,214	.43
Montana	116,693	.32
Iowa	114,044	.31
Virginia	94,763	.26
Georgia	87,014	.24
Tennessee	86,784	.23
Oklahoma	76,904	.21
Utah	67,352	.18
New Hampshire	57,010	.15
North Carolina	56,041	.15
District of Columbia	48,267	.13
West Virginia	38,667	.10
All Others (9 states)	120,536	.33
Total outside producing area	34,535,197	
GRAND TOTAL	37,004,749	100.0

Source of data: U. S. Treasury Dept., Bureau of Internal Revenue.

